

REMARKS

In the above-noted Official Action, the Examiner rejected claims 1, 2, 5-7, 11, 12, and 16 under 35 U.S.C. §103(a) over ALSENZ (U.S. Patent No. 4,951,475) in view of LEIMBACH et al. (U.S. Patent No. 3,252,297). In view of the herein-contained remarks, Applicants respectfully request reconsideration and withdrawal of each of the outstanding rejections, as well as an indication of the allowability of each of the claims now pending, in due course.

Applicants respectfully traverse the rejection of claims 1, 2, 5-7, 11, and 12 under 35 U.S.C. §103(a) over ALSENZ in view of LEIMBACH et al.

Initially, Applicants would like to explain the present invention as recited in the claims of the instant application. According to the present invention, as recited in, for example claim 1, an air conditioner includes an electronic expansion valve for expanding the refrigerant condensed by the condenser by passing the refrigerant through an expansion passage and a microcomputer for controlling the electronic expansion valve to be opened by a designated opening degree so that the pressure equilibrium in the compressors is rapidly achieved, when one or more compressors are stopped in accordance with the variation in the cooling/heating load and then the stopped compressor is restarted.

In other words, Applicants submit that the claimed air conditioner has an expansion valve that is electronically controlled so that it can open when one or more compressors are stopped so that the pressure equilibrium in the compressors can be rapidly achieved.

The Examiner has argued that ALSENZ teaches a microcomputer (10) that controls expansion valve (30). Applicants respectfully disagree, noting that a closer inspection of figure 1 shows that the microprocessor controller (10) is connected to the compressors (1), (2), (3), and (4) but that there is no link between the microprocessor controller (10) and the expansion valve (30). Furthermore, column 3, lines 4-7, 10, and 11 disclose that the expansion valve is in fact connected to a temperature sensing device (32) that measures the temperature of the refrigerant passing through the evaporator coil (35), and not a microcomputer as recited in claim 1.

Additionally, Applicants respectfully submit that it would not be obvious to replace the temperature sensing device with the pressure sensor of the present invention either, as they would be measuring two entirely different quantities. Furthermore, the Examiner admits that ALSENZ does not teach a microcomputer controlling the expansion valve to be opened by a designated degree to achieve rapid compressor pressure equilibrium when a compressor is stopped and then restarted.

The Examiner argues that LEIMBACH teaches control of an air conditioning expansion valve wherein the valve is opened when the compressor is stopped so that pressure equilibrium is rapidly achieved. Again, Applicants respectfully disagree, noting that the valve that is opened in LEIMBACH to achieve rapid pressure equilibrium is in fact a secondary or by-pass port and not the main expansion valve (see column 2, lines 4-6). Additionally, Applicants respectfully submit that there is no mention in LEIMBACH of a microcomputer controlling the expansion valve or even being capable of controlling the expansion valve, nor is there any mention of opening the expansion valve by a

- designated opening degree, as LEIMBACH only discloses the complete opening or
- closing of the secondary or by-pass port in order to achieve pressure equilibrium.

Applicants respectfully submit that the teachings of LEIMBACH do not compensate for or overcome the deficiencies that the Examiner has admitted to existing in ALSENZ, and thus the combination of ALSENZ in view of LEIMBACH is not sufficient to disclose the air conditioner of the present invention.

Applicants further submit that, while the above-noted remarks have been directed to the features explicitly recited in claim 1, claims 6 and 11 recite features generally similar to the above-noted features of claim 1. Accordingly, Applicants respectfully submit that each of independent claims 1, 6, and 11 are allowable, at least for the reasons set forth above. Additionally, Applicants respectfully submit that each of claims 2, 5, 7, and 12 are allowable, at least for depending, directly or indirectly from an allowable independent claim, as well as for additional reasons related to their own recitations.

Accordingly, for each and all of the reasons noted above, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 2, 5-7, 11, and 12 under 35 U.S.C. §103(a) over ALSENZ in view of LEIMBACH.

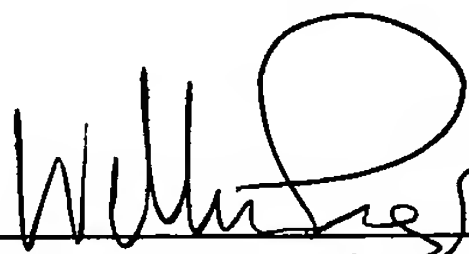
SUMMARY AND CONCLUSION

In view of the fact that none of the art of record, whether considered alone or in combination, discloses or suggests the present invention as defined by the claims, and in further view of the above remarks, reconsideration of the Examiner's action and allowance of the present application is respectfully requested and is believed to be appropriate.

Should the Commissioner determine that an extension of time is required in order to render this response timely and/or complete, a formal request for an extension of time, under 37 C.F.R. §1.136(a), is herewith made in an amount equal to the time period required to render this response timely and/or complete. The Commissioner is authorized to charge any required extension of time fee under 37 C.F.R. §1.17 to Deposit Account No. 19-0089.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,
Won Hee LEE et al.


Bruce H. Bernstein
Reg. No. 29,027

Handwritten note: 33630

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191